

WHAT IS CLAIMED IS:

1. An isolated peptide selected from the group consisting of:  
(X1)<sub>n</sub>EVEKIKTTVKESATEEKLTPVX2L(X2)<sub>m</sub> (SEQ ID NO: 1);  
(Y1)<sub>n</sub>EVAALQVDRKVADEEKQSYDAV(Y2)<sub>m</sub> (SEQ ID NO: 2),

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wherein

n and m independently represent 0 or 1;

X1, X2 and X3 are independently defined as follows

X1 is GVKETPQQKYQRLHEVQELTT (SEQ ID NO: 3), or

VKETPQQKYQRLHEVQELTT (SEQ ID NO: 4), or

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KETPQQKYQRLHEVQELTT (SEQ ID NO: 5), or

ETPQQKYQRLHEVQELTT (SEQ ID NO: 6), or

TPQQKYQRLHEVQELTT (SEQ ID NO: 7), or

PQQKYQRLHEVQELTT (SEQ ID NO: 8), or

QQKYQRLHEVQELTT (SEQ ID NO: 9), or

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QKYQRLHEVQELTT (SEQ ID NO: 10), or

KYQRLHEVQELTT (SEQ ID NO: 11), or

YQRLHEVQELTT (SEQ ID NO: 12), or

QRLHEVQELTT (SEQ ID NO: 13), or

RLHEVQELTT (SEQ ID NO: 14), or

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LLHEVQELTT (SEQ ID NO: 15), or

LHEVQELTT (SEQ ID NO: 16), or

HEVQELTT (SEQ ID NO: 17), or

EVQELTT (SEQ ID NO: 18), or

VQELTT (SEQ ID NO: 19), or

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QELTT (SEQ ID NO: 20), or

ELTT (SEQ ID NO: 21), or

LTT, or

TT, or

T;

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X2 is V or L, and

X3 is AKQLAAL (SEQ ID NO: 22), or

AKQLAA (SEQ ID NO: 23), or

AKQLA (SEQ ID NO: 24), or

AKQL (SEQ ID NO: 25), or

AKQ, or

AK, or

A;

and

Y1 and Y2 are independently defined as follows

Y1 is GEKETPVQKCQRLQIEMNELLN (SEQ ID NO: 26), or

EKETPVQKCQRLQIEMNELLN (SEQ ID NO: 27), or

KETPVQKCQRLQIEMNELLN (SEQ ID NO: 28), or

ETPVQKCQRLQIEMNELLN (SEQ ID NO: 29), or

TPVQKCQRLQIEMNELLN (SEQ ID NO: 30), or

PVQKCQRLQIEMNELLN (SEQ ID NO: 31), or

VQKCQRLQIEMNELLN (SEQ ID NO: 32), or

QKCQRLQIEMNELLN (SEQ ID NO: 33), or

KCQRLQIEMNELLN (SEQ ID NO: 34), or

CQRLQIEMNELLN (SEQ ID NO: 35), or

QRLQIEMNELLN (SEQ ID NO: 36), or

RLQIEMNELLN (SEQ ID NO: 37), or

LQIEMNELLN (SEQ ID NO: 38), or

QIEMNELLN (SEQ ID NO: 39), or

IEMNELLN (SEQ ID NO: 40), or

EMNELLN (SEQ ID NO: 41), or

MNELLN (SEQ ID NO: 42), or

NELLN (SEQ ID NO: 43), or

ELLN (SEQ ID NO: 44), or

LLN, or

LN, or

N; and

Y2 is VATVISTAR (SEQ ID NO: 45), or

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VATVISTA (SEQ ID NO: 46), or  
VATVIST (SEQ ID NO: 47), or  
VATVIS (SEQ ID NO: 48), or  
VATVI (SEQ ID NO: 49), or  
VATV (SEQ ID NO: 50), or  
VAT, or  
VA, or  
V, and

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derivatives thereof having at least about 90% identity with SEQ ID NO: 1 or SEQ ID NO: 2.

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2. The peptide of claim 1 which is  
GVKETPQQKYQRLLEHVQELTTEVEKIKTTVKESATEEKLTPVX2LAKQLAAL  
(SEQ ID NO: 51),  
wherein X2 is as defined in claim 1.

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3. The peptide of claim 1 which is  
GEKETPVQKQRLQIEMNELLNEVAALQVDRKVADEEKQSYDAVVATVISTAR  
(SEQ ID NO: 52).

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4. A peptide having at least 90% sequence identity with the peptide of SEQ ID NO: 51.

5. A peptide having at least 90% sequence identity with the peptide of SEQ ID NO: 52.

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6. The peptide of claim 4 having only conservative amino acid substitutions compared with SEQ ID NO: 51.

7. The peptide of claim 5 having only conservative amino acid substitutions compared with SEQ ID NO: 52.

8. A peptide encoded by nucleic acid hybridizing under stringent conditions to the coding sequence of SEQ ID NO: 52 as set forth in Figure 3 (SEQ ID NO: 55).

9. The peptide of claim 1 capable of modulating cellular proliferation.

10. The peptide of claim 1 capable of inhibiting cellular proliferation.

11. The peptide of claim 10 capable of selective inhibition of cancerous cells.

12. Nucleic acid encoding a peptide of claim 1.

13. A vector comprising and capable of expressing the nucleic acid of claim 12.

14. A recombinant host cell transformed with the nucleic acid of claim 12.

15. A composition comprising a peptide of claim 1 in admixture with a pharmaceutically acceptable carrier.

16. A composition comprising a nucleic acid of claim 12 in admixture with a carrier.

17. A method for inhibiting cellular proliferation comprising delivering to a target cell an effective amount of an isolated peptide of claim 1 or a nucleic acid encoding said peptide.

18. A method for inhibiting cellular proliferation comprising delivering to a target cell an effective amount of an isolated peptide of claim 4 or a nucleic acid encoding said peptide.

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19. A method for inhibiting cellular proliferation comprising delivering to a target cell an effective amount of an isolated peptide of claim 5 or a nucleic acid encoding said peptide.

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20. A method for inhibiting cellular proliferation comprising delivering to a target cell an effective amount of an isolated peptide of claim 8 or a nucleic acid encoding said peptide.

21. The method of claim 17 wherein said target cell is a tumor cell.

22. The method of claim 21 wherein said tumor cell is a cancer cell.

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23. A method for identifying a compound capable of inhibiting cellular proliferation comprising incubating a battery of candidate compounds with a mixture of a peptide of claim 1 and a native ZW10 protein for a time and under conditions sufficient for interaction between said candidate compounds and said peptide or ZW10, monitoring said interaction, and selecting a compound that interacts with said peptide or ZW10.

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24. The method of claim 23 wherein said interaction is monitored by the yeast two-hybrid system.

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25. The method of claim 23 wherein said interaction is binding to ZW10.

26. The method of claim 23 wherein said interaction is binding to said polypeptide.

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27. A molecule identified by the method of claim 23.